



SEQUENCE LISTING

<100> Joyce, Gerald F.
Breaker, Ronald R.

<120> ENZYMATIC DNA MOLECULES

<130> SCR2190S

<140> 09/423,035

<141> 2000-01-13

<150> PCT/US98/08677

<151> 1998-04-29

<150> 60/045,228

<151> 1997-04-29

<160> 131

<170> PatentIn Ver. 2.1

<210> 1

<211> 15

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: 3' terminal
sequence

<400> 1

cggtaagctt ggcac

15

<210> 2

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<223> Description of Combined DNA/RNA Molecule: The N
at position 8 is adenosine ribonucleotide.

<220>

<223> Description of Artificial Sequence: substrate

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tcactatnag gaagagatgg

20

<210> 3
<211> 38
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<223> Description of Artificial Sequence: DNA enzyme

<400> 3
acacatctct gaagtagcgc cgccgtatag tgacgcta

38

<210> 4
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<223> Description of Artificial Sequence: oligomer

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<221> misc_feature
<222> (16)..(65)
<223> n is an equimolar mixture of G, A, T and C

<400> 4
gtgccaaagt taccgnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnngtcgc catctcttcc 80

<210> 5
<211> 28
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<223> Description of Combined DNA/RNA Molecule: The n
at position 28 is adenosine ribonucleotide.

<220>
<221> misc_feature
<222> (28)
<223> 2'3' cyclic phosphate.

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<223> Description of Artificial Sequence: cleavage
produce

<400> 5

gggacgaatt ctaatacgac tcactatn

28

<210> 6

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<212> DNA

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<223> Description of Combined DNA/RNA Molecule: The n
at position 28 is adenosine ribonucleotide.

<220>

<223> Description of Artificial Sequence: primer

<400> 6

gggacgaatt ctaatacgac tcactatn

28

<210> 7

<211> 19

<212> DNA

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<223> Description of Combined DNA/RNA Molecule: The n
at position 8 is adenosine ribonucleotide.

<220>

<223> Description of Artificial Sequence: substrate

<400> 7

tcactatngg aagagatgg

19

<210> 8

<211> 8

<212> DNA

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<221> misc_feature

<222> (8)

<223> The n at position 8 is adenosine nucleotide.

<220>

<223> Description of Artificial Sequence: template

<400> 8

tcactatn

8

<210> 9

<211> 30

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: template

<400> 9

ccatctcttc ctatagtgag tccggctgca

30

<210> 10

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 10

gtgccaaagct taccg

15

<210> 11

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 11

ctgcagaatt ctaatacgac tcactatagg aagagatggc gac

43

<210> 12

<211> 19

<212> DNA

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<223> Description of Combined DNA/RNA Molecule: The n
at position 8 is adenosine ribonucleotide.

<220>

<223> Description of Artificial Sequence: substrate

<400> 12

tcactatngg aagagatgg

19

<210> 13

<211> 43

<212> DNA

<213> Artificial Sequence

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<223> Description of Combined DNA/RNA Molecule: The n
at position 28 is adenosine ribonucleotide.

<220>

<223> Description of Artificial Sequence: fixed
substrate

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43

<210> 14

<211> 50

<212> DNA

<213> Artificial Sequence

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domain

<400> 14

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50

<210> 15

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme
domain

<400> 15

ggggggaacg ccgtaacaag ctctgaacta gcggttgcga tatagtcgta 50

<210> 16

<211> 50

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme
domain

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<210> 17

<211> 50

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme
domain

<400> 17

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<210> 18

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme
domain

<400> 18

gccagattgc tgctaccagc ggtacgaaat agtgaagtgt tcgtgactat 50

<210> 19

<211> 50

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme
domain

<400> 19

ataggccatg ctttggttag cggcaccgta tagtgtacct gcccttatcg 50

<210> 20

<211> 50

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme
domain

<400> 20

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<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme
domain

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<210> 22

<211> 50

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme
domain

<400> 22

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<211> 107
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Combined DNA/RNA Molecule: The n
at position 28 is adenosine ribonucleotide.

<220>

<223> Description of Artificial Sequence: oligomer

<220>

<221> misc_feature

<222> (49)..(88)

<223> n is an equimolar mixture of G, A, T and C

<400> 23

gggacgaatt ctaatacgac tcactatngg aagagatggc gacatctcnn nnnnnnnnnn 60
nnnnnnnnnn nnnnnnnnnn nnnnnnnngt gacggtagc ttggcac 107

<210> 24

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 24

ccgcccacct cttttacgag cctgtacgaa atagtgtct tgtagtat 49

<210> 25

<211> 48

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 25

tctcttcagc gatgcacgct tgttttaatg ttgcacccat gttagtga 48

<210> 26
<211> 46
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 26

tctcatcagc gattgaacca cttggtggac agacccatgt tagtga

46

<210> 27
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<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 27

ccgcccacct cttttacgag cctgtacgaa atagtgttct tgtagtat

49

<210> 28
<211> 49
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 28

ccgcccacct cttttacgag cctgtacgaa atagtgtctt cgtagtat

49

<210> 29
<211> 48
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 29

tctcagactt agtccatcac actctgtgca tatgcctgct tgatgtga

48

<210> 30
<211> 42
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 30
ctctcatctg ctagcacgct cgaatagtgt cagtcgatgt ga

42

<210> 31
<211> 40
<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 31
tacagcgatt cacccttggt taagggttac acccatgtta

40

<210> 32
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<223> Description of Artificial Sequence: DNA enzyme

<400> 32
atcagcgatt aacgcttggt tcaatgttac acccatgtta

40

<210> 33
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<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 33
ttcagcgatt aacgcttatt ttagcggttac acccatgtta

40

<210> 34
<211> 40
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 34
atcagcgatt cacccttggt ttaaggttgc acccatgtta

40

<210> 35
<211> 40
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 35
atcagcgatt cacccttggt taagcgttac acccatgttg

40

<210> 36
<211> 40
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 36
atcagcgatt cacccttggt ttaaggttac acccatgtta

40

<210> 37
<211> 40
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 37
atcagcgatt aacgcttatt ttagcgttac acccatgtta

40

<210> 38
<211> 40
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 38
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40

<210> 39
<211> 40
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 39
atcagcgatt aacgcttatt ttagcattac acccatgtta

40

<210> 40
<211> 10
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: substrate
binding region

<400> 40
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10

<210> 41
<211> 10
<212> DNA
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<220>

<223> Description of Artificial Sequence: substrate
binding region

<400> 41
ctctatttct

10

<210> 42
<211> 12
<212> DNA
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<220>

<223> Description of Artificial Sequence: substrate
binding region

<400> 42
tatgtgacgc ta

12

<210> 43
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: substrate
binding region

<400> 43
tatagtcgta

10

<210> 44
<211> 11
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: substrate
binding region

<400> 44
atagcgtatt a

11

<210> 45
<211> 13
<212> DNA
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<220>

<223> Description of Artificial Sequence: substrate

binding region

<400> 45
atagttacgt cat

13

<210> 46
<211> 14
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<220>
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binding region

<400> 46
aatagtgaag tggt

14

<210> 47
<211> 11
<212> DNA
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binding region

<400> 47
ataggcccgg t

11

<210> 48
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binding region

<400> 48
aatagtgagg cttg

14

<210> 49
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<213> Human immunodeficiency virus type 1

<400> 49

guaacuagag au

12

<210> 50

<211> 98

<212> DNA

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<223> Description of Combined DNA/RNA Molecule:
Positions 7-18 is RNA; the remainder of the
sequence is DNA.

<220>

<223> Description of Artificial Sequence: DNA enzyme

<220>

<221> misc_feature

<222> (34)..(83)

<223> n is an equimolar mixture of G, A, T and C

<400> 50

ggaaaaguaa cuagagaugg aagagatggc gacnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnnnn nnnnnnnnnn nnnnccgtaag cttggcac 98

<210> 51

<211> 99

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Combined DNA/RNA Molecule:
Positions 1-24 is RNA; the remainder of the
sequence is DNA.

<220>

<223> Description of Artificial Sequence: DNA enzyme

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<221> misc_feature

<222> (35)..(84)

<223> n is an equimolar mixture of G, A, T and C

<400> 51

ggaaaaagua acuagagaug gaagagatgg cgacnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnnnn nnnnnnnnnn nnnncggtaa gcttggcac 99

<210> 52
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
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<400> 52
ccaatagtgc tactgtgtat ctcaatgctg gaaacacggg ttatctcccg 50

<210> 53
<211> 50
<212> DNA
<213> Artificial Sequence

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<400> 53
ccaaaacagt ggagcattat atctactcca caaagaccac ttttctcccg 50

<210> 54
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<212> DNA
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<400> 54
atccgtacta gcatgcagac agtctgtctg ctttttcatt actcactccc 50

<210> 55
<211> 49
<212> DNA
<213> Artificial Sequence

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<400> 55
caattcatga tgaccaactc tgtcaacacg cgaactttta acactggca 49

<210> 56
<211> 50
<212> DNA
<213> Artificial Sequence

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<400> 56
cttcacctt ccgagccgga cgaagttact tttatcaca ctacgtattg 50

<210> 57
<211> 50
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 57
ggcaagagat ggcatatatt caggttaactg tggagatacc ctgtctgcca 50

<210> 58
<211> 50
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 58
ctagaccatt cacgtttacc aagctatggt aagaactaga atcacgcgta 50

<210> 59
<211> 50
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 59
cgtaacggtg gaaaagctat aagtcaagtt ctcatcatgt acctgaccgc 50

<210> 60
<211> 50
<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 60
cagtcatata tgagtgcacc gctacgacta agtctgtaac ttattctacc 50

<210> 61
<211> 50
<212> DNA
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<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 61
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<210> 62
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<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 62
caggtagata taatgcgtca ccgtgcttac actcggttta ttagtatgtc 50

<210> 63
<211> 49
<212> DNA
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<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 63
ccctacaaca ccaactgggcc caattagatt aacgctatTT tataactcg 49

<210> 64
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 64
ccaaacggtt ataagactga aaactcaatc aatagcccaa tcctcgccc 49

<210> 65
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: DNA enzyme

<400> 65
cacatgtata cctaagaaat tggTcccgtA gacgtcacag acttacgccA 50

<210> 66
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 66
cacaacgaaa acaatcttcc ttggcatact ggggagaaag tctgttgtcc 50

<210> 67
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 67
cacacgaaca tgtccattaa atggcattcc gtttttcggt ctacatatgc 50

<210> 68
<211> 49
<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 68
cagaacgagg gtcttgtaag actacacctc ctcaagtaca ataattctg 49

<210> 69
<211> 49
<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 69
cactacagcc tgatatatat gaagaacagg caacaagctt atgcactgg 49

<210> 70
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 70
gggtacattt atgattctct tataaagaga atatcgact cttttcccca 50

<210> 71
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 71
ccaaagtaca ttccaacccc ttatacgtga aacttcagat agtttccta 49

<210> 72
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 72
cttgaagatc ctcataagac gattaaacaa tccactggat ataatccgga 50

<210> 73
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 73
cgaatagtgt ccatgattac accaataact gcctgcctat catgtttatg 50

<210> 74
<211> 50
<212> DNA
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<223> Description of Artificial Sequence: DNA enzyme

<400> 74
ccaagagagt atcgatata cttggaacat agctaactcg aactgtacca 50

<210> 75
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 75
ccactgataa ataggttaact gtctcatatc tgccaatcat atgccgta 48

<210> 76
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 76
cccaaattat aaacaattta acacaagcaa aaggagggttc attgctccgc 50

<210> 77
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 77
caataaactg gtgctaaacc taataccttg tatccaagtt atcctccccc 50

<210> 78
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 78
ccgaatgaca tccgtagtgg aaccttgctt ttgacactaa gaagctacac 50

<210> 79
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 79
ccataacaaa taccatagta aagatctgca ttatattata tcggtccacc 50

<210> 80
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 80
cagaacaaag atcagtagct aaacatatgg tacaacata ccatctcgca 50

<210> 81
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 81
cctttagtta ggctagctac aacgattttt ccctgcttgg caacgacac 49

<210> 82
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 82
ctccctacgt tacaccagcg gtacgaattt tccacgagag gtaatccgca 50

<210> 83
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 83
cggcacctct agttagacac tccggaattt ttcccc 36

<210> 84
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 84
cggcacctct agttagacac tccggaattt tagcctacca tagtccggt 49

<210> 85
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 85
ccctttgggtt aggctagcta caacgatttt tccctgcttg aattgta 47

<210> 86
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 86
ccctttgggtt aggctagcta caacgatttt tccctgcttg acctgttacg a 51

<210> 87
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 87
cctttagtta ggctagctac aacgattttt cctgcttgg aacgacac 48

<210> 88
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 88
catggcttaa tcatcctcaa tagaagacta caagtcgaat atgtccccc 50

<210> 89
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 89
caacagagcg agtatcacc cctgtcaata gtcgtatgaa acattgggcc 50

<210> 90
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<223> Description of Artificial Sequence: DNA enzyme

<400> 90
taccgacaag gggaattaaa agctagctgg ttatgcaacc cttttcgca 49

<210> 91
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 91
ctcgaacag tgatattctg aacaaacggg tactacgtgt tcagcccc 49

<210> 92
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<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 92
ccaataacgt aacccgggta gataagcact tagctaagat gtttatcctg 50

<210> 93
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 93
caatacaatc ggtacgaatc cagaaacata acgttggttc agaatggtcc 50

<210> 94
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 94
gcaacaacaa gaaccaagtt acatacacgt tcatctatac tgaacccccca 50

<210> 95
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<220>
<223> Description of Artificial Sequence: DNA enzyme

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cctttgagtt cctaaatgcc gcacggtaag cttggcacac ttgactgta 50

<210> 96
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<212> DNA
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<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 96
caaagatctc actttggaaa tgcgaaatat gtatattcgc cctgtctgc 49

<210> 97
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 97
ccacgtagaa ttatctgatt tataacataa cgcaggataa ctctcgccca 50

<210> 98
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 98
cacaagaaag tgtogtctcc agatatttga gtacaaggaa ctacgcc 48

<210> 99
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 99
catgaagaaa taggacattc tacaggctgg accgttacta tgcctgtagg 50

<210> 100
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 100
cataggataa tcatggcgat gcttatgacg tgtacatcta tacctt 46

<210> 101
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 101
cagatgatct tcctttaag actacccttt aaagaaacat aaggtacccc 50

<210> 102
<211> 17
<212> RNA
<213> Human immunodeficiency virus

<400> 102
ggagagagau gggugcg 17

<210> 103
<211> 15
<212> RNA
<213> Human immunodeficiency virus

<400> 103
gagagagaug ggugc 15

<210> 104
<211> 17

<212> RNA
 <213> Human immunodeficiency virus

 <400> 104
 caguggcaau gagagug 17

 <210> 105
 <211> 15
 <212> RNA
 <213> Human immunodeficiency virus

 <400> 105
 aguggcaaug agagu 15

 <210> 106
 <211> 17
 <212> RNA
 <213> Human immunodeficiency virus

 <400> 106
 gaggauagau ggaacaa 17

 <210> 107
 <211> 15
 <212> RNA
 <213> Human immunodeficiency virus

 <400> 107
 aggauagaug gaaca 15

 <210> 108
 <211> 15
 <212> RNA
 <213> Human immunodeficiency virus

 <400> 108
 gcaagaaug gagcc 15

 <210> 109
 <211> 15
 <212> RNA
 <213> Human immunodeficiency virus

<400> 109
cuauaagaug gguga 15

<210> 110
<211> 20
<212> RNA
<213> Feline infectious peritonitis virus

<400> 110
uacagcaaca uggggaugg 20

<210> 111
<211> 18
<212> RNA
<213> Feline infectious peritonitis virus

<400> 111
cauggggaau ggacaggg 18

<210> 112
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 112
caaaauaaaag ggaugaaguc ugg 23

<210> 113
<211> 21
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 113
aaggaaugaa gucuggcucc g 21

<210> 114
<211> 23

<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 114
auaccgcaaa gucuugaga auu 23

<210> 115
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 115
aagucuuga gaguuccug cac 23

<210> 116
<211> 19
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 116
aacaccacca uguccagcc 19

<210> 117
<211> 20
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 117
ggccuucac auuguaccgc 20

<210> 118
<211> 21

<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 118
uuguaccgca ucgauaucca c 21

<210> 119
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RNA

<400> 119
gaacauuaca uuauagugac cag 23

<210> 120
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 120
tccgagccgg acga 14

<210> 121
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA enzyme

<400> 121
rggctagcta caacga 16

<210> 122
<211> 16

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<220>

<221> misc_feature

<222> (9)

<223> H = T, C or A

<400> 122

rggctagcha caacga

16

<210> 123

<211> 79

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<220>

<221> misc_feature

<222> (18)

<223> The N at position 18 is adenosine ribonucleotide.

<400> 123

ctaatacgac tcactatngg aagagatggc gacatctctt cagcgatgca cgcttgtttt 60
aatgttgac ccatgtag 79

<210> 124

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 124

gtgccaaagct taccgagtaa ctctgtccgg ctcggragat gggtcgtctg tccttccatc 60
tctagttact ttttc 75

<210> 125

<211> 78

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 125

gttgccaagc ttaccgggaa aaatcgttgt agctagccta actaggctgt ctgtccttcc 60
atctctagtt actttttc 78

<210> 126

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 126

ggaaggacag acgacccatc 20

<210> 127

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 127

gtgccaagct taccgggaaa aa 22

<210> 128

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 128

ggaaggacag acgacctagt t 21

<210> 129

<211> 34
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 129

gaaaaagtaa ctagagatgg aaggacagac gacc

34

<210> 130

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 130

cacggttcga atggcggttat gcatcacact atttttcatt gaagcaggcc gaggccttcca 60
ccttcagcg gtagagaagg 80

<210> 131

<211> 77

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA enzyme

<400> 131

cacggttcga atggcatggt aagttcggtcc ctttttagca acatcgatcg gattgggttc 60
cccagcggtg gagaagg 77